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## NOTICE OF ALLOWANCE AND FEE(S) DUE

24737 7590 05/14/2009

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EXAMINER

THOMAS, MIA M

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 05/14/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,253

12/16/2004

Estelle Lesellier

FR 020062

8258

TITLE OF INVENTION: METHOD OF DETECTING BLOCKING ARTIFACTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	08/14/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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24737 7590 05/14/2009

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## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,253 12/16/2004 Estelle Lesellier FR 020062 8258

TITLE OF INVENTION: METHOD OF DETECTING BLOCKING ARTIFACTS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 08/14/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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THOMAS, MIA M 2624 382-275000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

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This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/518,253	12/16/2004	Estelle Lesellier	FR 020062	8258

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EXAMINER

THOMAS, MIA M

ART UNIT

PAPER NUMBER

2624

DATE MAILED: 05/14/2009

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 585 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 585 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/518,253	LESELLIER, ESTELLE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mia M. Thomas	2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to applicant's appeal brief filed on 26 January 2009.
2. ☒ The allowed claim(s) is/are 1,3-11,13-15,18 and 19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|--|---|

/Mia M Thomas/  
Examiner, Art Unit 2624

Art Unit: 2624

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Robert McDermott (Registration # 41,508) on 08 May 2009.

This application has been amended as follows:

Title: Please amend the title to read as follows:

--"Method of Detecting Blocking Artifacts"--

Please replace the previously pending claim set with the newly amended claims as submitted herewith.

For each instance of the word "artefact", please replace with --"artifact"--

#### Amendments to the Claims:

1. A method of processing data corresponding to pixels of a sequence of digital images so as to detect a grid corresponding to blocking artifacts, comprising:  
high-pass filtering a portion of a digital image to supply at least one set of discontinuity pixels,  
detecting blocking artifacts from the at least one set of discontinuity pixels, and  
searching rows within the portion of the digital image for a grid row having a density of blocking artifacts that is substantially larger than that of its neighboring rows;  
wherein the searching includes:  
selecting, in a row of the portion of the digital image, segments comprising a number of

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consecutive blocking artifacts that is larger than a predetermined first threshold;  
computing a blocking artifact level, per row, on the basis of values of pixels of the selected segments; and  
determining the grid row based on a comparison of the blocking artifact levels of a current row and a set of neighboring rows.

3. The method of claim 1, including measuring image quality by adding the blocking artifact levels of the different rows of the grid for the portion of the digital image.

4. The method of claim 1, including validating to determine whether the grid is present within the portion of the digital image if the number of grid rows found in said portion of the digital image is higher than a second predetermined threshold.

5. The method of claim 1, wherein the high-pass filtering supplies two sets of discontinuity pixels, one horizontal set of discontinuity pixels and one vertical set of discontinuity pixels.

6. The method of claim 1, wherein detecting the blocking artifacts includes detecting a first type of blocking artifacts and a second type of blocking artifacts from the at least one set of discontinuity pixels.

7. The method of claim 6, including correcting the blocking artifacts situated in the grid rows in accordance with their type.

8. A television receiver comprising: a screen that includes pixels arranged in rows, and a

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processing device that is configured to:

high-pass filter a portion of a digital image to supply at least one set of discontinuity pixels,

detect blocking artifacts from the at least One set of discontinuity pixels,

search rows, within the portion of the digital image, for a grid row having a density of blocking artifacts that is substantially larger than that of its neighboring rows,

select, in a row of the portion of the digital image, segments comprising a number of consecutive blocking artifacts that are larger than a predetermined first threshold;

compute a blocking artifact level, per row, based on values of pixels of the selected segments;

and determine the grid row based on a comparison of the blocking artifact levels of a current row and a set of neighboring rows;

correct the blocking artifacts situated in the grid row to provide a corrected digital image, and display corrected digital images on the screen.

9. A computer-readable storage medium that includes a program product comprising a set of instructions which, when loaded into a circuit, cause said circuit to perform the method of processing digital images as claimed in claim 1.

10. The receiver of claim 8, wherein the processing device is configured to detect a first type of blocking artifact and a second type of blocking artifact from the at least one set of discontinuity pixels.

11. The receiver of claim 10, wherein the processing device is configured to correct the blocking artifacts situated in the grid rows based on the type of blocking artifact.

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13. The receiver of claim 8, including a validation system that is configured to validate a presence of the grid row by comparing a total number of grid rows found to a threshold value.

14. The receiver of claim 8, wherein the processing device includes:

a plurality of discrete cosine transforms that are arranged to identify one or more frequency limits associated with the grid row, and a correction unit that is configured to substantially reduce elements of the digital image that exceed these one or more frequency limits to form the corrected digital image.

15. (Previously presented) A display system comprising:

a display screen that includes pixels arranged in rows,

a high-pass filter that is configured to filter a portion of a digital image to supply at least one set of discontinuity pixels,

a detector that is configured to search rows within the portion of the digital image, for a grid row having a density of blocking artifacts that is substantially larger than that of its' neighboring rows, and wherein the detector is configured to:

select, in a row of the portion of the digital image, segments comprising a number of consecutive blocking artifacts that is larger than a predetermined first threshold;

compute a blocking artifact level per row based on values of pixels of the selected segments;

and determine the grid row based on a comparison of the blocking artifact levels of a current row and a set of neighboring rows;

and a correction system that is configured to correct the blocking artifacts situated in the grid row to provide a corrected digital image for display on the display screen.



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18. (Previously presented) The system of claim 15, including a validation system that is configured to validate a presence of the grid row by comparing a total number of grid rows found to a threshold value.

19. {Previously presented) The system of claim 15, wherein the correction system includes: a plurality of discrete cosine transforms that are arranged to identify one or more frequency limits associated with the grid row, and a correction unit that is configured to substantially reduce elements of the digital image that exceed these one or more frequency limits to form the corrected digital image.

20. (Previously presented) The system of claim 19, wherein the correction unit includes: a filter that is configured to substantially eliminate components of an output of at least one of the discrete cosine transforms corresponding to frequencies above the one or more frequency limits to form a filtered transform, and an inverse discrete cosine transform that is configured to convert the filtered transform into at least a portion of the corrected digital image.

2. This Notice of Allowability/Examiner's Amendment is responsive to applicant's appeal brief filed on 16 January 2009. Claims 1-20 are pending in this application. By way of Examiner's Amendment, claims 2, 12, 16 and 17 have been canceled. Claims 1, 8, 9 and 15 have been amended to define applicant's invention more clearly and to distinguish over the prior art made of record.

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3. Applicant's grounds of rejection to be reviewed on appeal at page(s) 6-15 of the appeal brief have been fully considered. Applicant has agreed to amend Claim 9 under 35 U.S.C. 101 and 35 U.S.C. 112, second paragraph. By way of this amendment, all previous rejections of Claim 9 have been withdrawn. Specifically, the specification recites a computer program stored in a programming memory may cause the circuit to perform the different operations described hereinbefore with reference to Figure 1 at paragraph [0045]. Claim 9 has been newly amended (see above) and this recitation embodies a tangible computer readable storage medium that does not encompass a signal, carrier wave or the like (that which is directed to non-statutory subject matter). Therefore claim 9 is now in condition for allowance.

4. Applicant's argument's with regards to Claims 1-20 under 35 U.S.C. 103(a) have been considered but are moot in view of the newly amended claims which distinguish over the prior art of record. Claims 1, 3-11, 13-15, 18-20 are allowable. The Claims have been renumbered as 1-16.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew W Johns/  
Primary Examiner, Art Unit 2624

*/Mia M Thomas/*  
Examiner, Art Unit 2624